## 31.0 STEROIDS

### *31.1 Testing Procedures*

*31.1.1 UV-VIS*

UV-VIS analysis of a powdered tablet or liquid may be performed by dissolving an aliquot of the powder or liquid in 0.1 N HCl, 0.5 N $H_2SO_4$, or reagent alcohol. If the UV-VIS is performed in an acid, the solution can be rendered basic with saturated NaOH and scanned again.

*31.1.2 FTIR analysis*

FTIR analysis may be performed on the evaporated eluate from the extraction of a tablet or liquid using KBr pellets. This eluate can be evaporated by drying under air and recrystallizing the sample for use with the ATR accessory, or the liquid may be placed directly on the ATR sample window and allowed to evaporate before analysis.

*31.1.3 GC, GC-MS, and GC-IR analysis*

Tablets and liquids may be extracted by vigorously mixing the sample with methanol, reagent alcohol or chloroform followed by centrifuging the sample for GC, GC-MS, and/or GC-IR analysis.

### *31.2 Special Considerations*

Illicit as well as legitimate foreign sources of pharmaceutical and veterinary steroids often are not readily identified by their label and can be purposefully mislabeled. The analyst should also consider the possibility of counterfeit preparations.

Some of the steroids are high molecular weight compounds. The analyst should use a method that scans the sample from 40 to 500 atomic mass units on the GC-MS and utilizes an extended run time.

### *31.3 References*

Mills, T. III and Roberson, J.C*., Instrumental Data for Drug Analysis*, 2nd Ed., Holt, Rinehart, & Winston, 1980.

*Analytical Profiles of the Anabolic Steroids*, CND Analytical, 1989.

Chiong, D. M., Consuegra-Rodriguez, E. and Almirall, J. R., "*The Analysis and Identification of steroids"*, Journal of forensic Sciences, Vol. 37, No. 2, March 1992, pp. 488-502.